SEQUENCE LISTING

<110> Baumgarten, Birgit
Jones, Carol Elizabeth
Ludwig, Marie-Gabrielle
Martiny-Baron, Georg
Seuwen, Klaus
Wolf, Romain
Wyder, Lorenza
Suply, Thomas

<120> PROTON-SENSING G-PROTEIN COUPLED RECEPTORS AND DNA SEQUENCES THEREOF

<130> DC-4-33201A

<140> US 10/560,322
<141> 2004-06-18

<150> PCT/EP2004/006625
<151> 2004-06-18

<150> 60/499,549
<151> 2003-09-02

<150> 60.480,245
<151> 2003-06-20

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            20                  25                  30
Val Val Gly Phe Pro Ala Asn Cys Leu Ser Leu Tyr Phe Gly Tyr Leu
        35                  40                  45
Gln Ile Lys Ala Arg Asn Glu Leu Gly Val Tyr Leu Cys Asn Leu Thr
    50                  55                  60
Val Ala Asp Leu Phe Tyr Ile Cys Ser Leu Pro Phe Trp Leu Gln Tyr
65                  70                  75                  80
Val Leu Gln His Asp Asn Trp Ser His Gly Asp Leu Ser Cys Gln Val
                85                  90                  95
Cys Gly Ile Leu Leu Tyr Glu Asn Ile Tyr Ile Ser Val Gly Phe Leu
            100                 105                 110
Cys Cys Ile Ser Val Asp Arg Tyr Leu Ala Val Ala His Pro Phe Arg
        115                 120                 125
Phe His Gln Phe Arg Thr Leu Lys Ala Ala Val Gly Val Ser Val Val
    130                 135                 140
Ile Trp Ala Lys Glu Leu Leu Thr Ser Ile Tyr Phe Leu Met His Glu
145                 150                 155                 160
Glu Val Ile Glu Asp Glu Asn Gln His Arg Val Cys Phe Glu His Tyr
                165                 170                 175
Pro Ile Gln Ala Trp Gln Arg Ala Ile Asn Tyr Tyr Arg Phe Leu Val
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                180                 185                 190
Gly Phe Leu Phe Pro Ile Cys Leu Leu Leu Ala Ser Tyr Gln Gly Ile
        195                 200                 205
Leu Arg Ala Val Arg Arg Ser His Gly Thr Gln Lys Ser Arg Lys Asp
    210                 215                 220
Gln Ile Gln Arg Leu Val Leu Ser Thr Val Val Ile Phe Leu Ala Cys
225                 230                 235                 240
Phe Leu Pro Tyr His Val Leu Leu Leu Val Arg Ser Val Trp Glu Ala
                245                 250                 255
Ser Cys Asp Phe Ala Lys Gly Val Phe Asn Ala Tyr His Phe Ser Leu
            260                 265                 270
Leu Leu Thr Ser Phe Asn Cys Val Ala Asp Pro Val Leu Tyr Cys Phe
        275                 280                 285
Val Ser Glu Thr Thr His Arg Asp Leu Ala Arg Leu Arg Gly Ala Cys
    290                 295                 300
Leu Ala Phe Leu Thr Cys Ser Arg Thr Gly Arg Ala Arg Glu Ala Tyr
305                 310                 315                 320
Pro Leu Gly Ala Pro Glu Ala Ser Gly Lys Ser Gly Ala Gln Gly Glu
                325                 330                 335
Glu Pro Glu Leu Leu Thr Lys Leu His Pro Ala Phe Gln Thr Pro Asn
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Ser Pro Gly Ser Gly Gly Phe Pro Thr Gly Arg Leu Ala
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<211> 362
<212> PRT
<213> H. sapiens

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            20                  25                  30
Pro Thr Asn Cys Leu Ala Leu Trp Ala Ala Tyr Arg Gln Val Gln Gln
        35                  40                  45
Arg Asn Gln Leu Gly Val Tyr Leu Met Asn Leu Ser Ile Ala Asp Leu
    50                  55                  60
Leu Tyr Ile Cys Thr Leu Pro Leu Trp Val Asp Tyr Phe Leu His His
65                  70                  75                  80
Asp Asn Trp Ile His Gly Pro Gly Ser Cys Lys Leu Pro Gly Phe Ile
                85                  90                  95
Phe Tyr Thr Asn Ile Tyr Ile Ser Ile Ala Phe Leu Cys Cys Ile Ser
            100                 105                 110
Val Asp Arg Tyr Leu Ala Val Ala His Pro Leu Arg Phe Ala Arg Leu
        115                 120                 125
Arg Arg Val Lys Thr Ala Val Ala Val Ser Ser Val Val Trp Ala Thr
    130                 135                 140
Glu Leu Gly Ala Asn Ser Ala Pro Leu Phe His Asp Glu Leu Phe Arg
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145                 150                 155                 160
Asp Arg Tyr Asn His Thr Phe Cys Phe Glu Lys Phe Pro Met Glu Gly
                165                 170                 175
Trp Val Ala Trp Met Asn Leu Tyr Arg Val Phe Val Gly Phe Leu Phe
            180                 185                 190
Pro Trp Ala Leu Met Leu Leu Ser Tyr Arg Gly Ile Leu Arg Ala Val
        195                 200                 205
Arg Gly Ser Val Ser Thr Glu Arg Gln Glu Lys Ala Lys Ile Lys Arg
    210                 215                 220
Leu Ala Leu Ser Leu Ile Ala Ile Val Leu Val Cys Phe Ala Pro Tyr
225                 230                 235                 240
His Val Leu Leu Leu Ser Arg Ser Ala Ile Tyr Leu Gly Arg Pro Trp
                245                 250                 255
Asp Cys Gly Phe Glu Glu Arg Val Phe Ser Ala Tyr His Ser Ser Leu
            260                 265                 270
Ala Phe Thr Ser Leu Asn Cys Val Ala Asp Pro Ile Leu Tyr Cys Leu
        275                 280                 285
Val Asn Glu Gly Ala Arg Ser Asp Val Ala Lys Ala Leu His Asn Leu
    290                 295                 300
Leu Arg Phe Leu Ala Ser Asp Lys Pro Gln Glu Met Ala Asn Ala Ser
305                 310                 315                 320
Leu Thr Leu Glu Thr Pro Leu Thr Ser Lys Arg Asn Ser Thr Ala Lys
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<213> H. sapiens

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            20                  25                  30
Ile Gly Ser Leu Cys Val Ser Phe Leu Gln Pro Lys Lys Glu Ser Glu
        35                  40                  45
Leu Gly Ile Tyr Leu Phe Ser Leu Ser Leu Ser Asp Leu Leu Tyr Ala
    50                  55                  60
Leu Thr Leu Pro Leu Trp Ile Asp Tyr Thr Trp Asn Lys Asp Asn Thr
65                  70                  75                  80
Thr Phe Ser Pro Ala Leu Cys Lys Gly Ser Ala Phe Leu Met Tyr Met
                85                  90                  95
Leu Phe Tyr Ser Ser Thr Ala Phe Leu Thr Cys Ile Ala Val Asp Arg
            100                 105                 110
Tyr Leu Ala Val Val Tyr Pro Leu Lys Phe Phe Phe Leu Arg Thr Arg
        115                 120                 125
Arg Ile Ala Leu Met Val Ser Leu Ser Ile Trp Ile Leu Glu Thr Ile
    130                 135                 140
Phe Asn Ala Val Met Leu Trp Glu Asp Glu Thr Val Val Glu Tyr Cys
145                 150                 155                 160
Asp Ala Glu Lys Ser Asn Phe Thr Leu Cys Tyr Asp Lys Tyr Pro Leu
                165                 170                 175
Glu Lys Trp Glu Ile Asn Leu Asn Leu Phe Arg Thr Cys Thr Gly Tyr
            180                 185                 190
Ala Ile Pro Leu Val Thr Ile Leu Ile Cys Asn Arg Lys Val Tyr Gln
        195                 200                 205
Ala Val Arg His Asn Lys Ala Thr Glu Asn Lys Glu Lys Lys Arg Ile
    210                 215                 220
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```
Ile Lys Leu Leu Val Ser Ile Thr Val Thr Phe Val Leu Cys Phe Thr
225                 230                 235                 240
Pro Phe His Val Met Leu Leu Ile Arg Cys Ile Leu Glu His Ala Val
                245                 250                 255
Asn Phe Glu Asp His Ser Asn Ser Gly Lys Arg Thr Tyr Thr Met Tyr
            260                 265                 270
Arg Ile Thr Val Ala Leu Thr Ser Leu Asn Cys Val Ala Asp Pro Ile
        275                 280                 285
Leu Tyr Cys Phe Val Thr Glu Thr Gly Arg Tyr Asp Met Trp Asn Ile
    290                 295                 300
Leu Lys Phe Cys Thr Gly Arg Cys Asn Thr Ser Gln Arg Gln Arg Lys
305                 310                 315                 320
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Arg Ser Asp Val Ala Lys Ala Leu His Asn Leu Leu Arg Phe Leu Ala
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<210> 6
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Asp Glu Leu Phe Arg Asp Arg Tyr Asn His Thr Phe Cys Phe Glu Lys
 1   5   10   15
Phe Pro Met Glu
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 1               5                  10                  15
His Ile Thr His Gln Thr Leu Ala Pro Val Val Tyr Val Thr Val Leu
            20                  25                  30
Val Val Gly Phe Pro Ala Asn Cys Leu Ser Leu Tyr Phe Gly Tyr Leu
        35                  40                  45
Gln Ile Lys Ala Arg Asn Glu Leu Gly Val Tyr Leu Cys Asn Leu Thr
    50                  55                  60
Val Ala Asp Leu Phe Tyr Ile Cys Ser Leu Pro Phe Trp Leu Gln Tyr
65                  70                  75                  80
Val Leu Gln His Asp Asn Trp Ser His Gly Asp Leu Ser Cys Gln Val
                85                  90                  95
Cys Gly Ile Leu Leu Tyr Glu Asn Ile Tyr Ile Ser Val Gly Phe Leu
            100                 105                 110
Cys Cys Ile Ser Val Asp Arg Tyr Leu Ala Val Ala His Pro Phe Arg
        115                 120                 125
Phe His Gln Phe Arg Thr Leu Lys Ala Ala Val Gly Val Ser Val Val
    130                 135                 140
Ile Trp Ala Lys Glu Leu Leu Thr Ser Ile Tyr Phe Leu Met His Glu
145                 150                 155                 160
Glu Val Ile Glu Asp Glu Asn Gln His Arg Val Cys Phe Glu His Tyr
                165                 170                 175
Pro Ile Gln Ala Trp Gln Arg Ala Ile Asn Tyr Tyr Arg Phe Leu Val
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```
                180                 185                 190
Gly Phe Leu Phe Pro Ile Cys Leu Leu Leu Ala Ser Tyr Gln Gly Ile
        195                 200                 205
Leu Arg Ala Val Arg Arg Ser His Gly Thr Gln Lys Ser Arg Lys Asp
    210                 215                 220
Gln Ile Gln Arg Leu Val Leu Ser Thr Val Val Ile Phe Leu Ala Cys
225                 230                 235                 240
Phe Leu Pro Tyr His Val Leu Leu Leu Val Arg Ser Val Trp Glu Ala
                245                 250                 255
Ser Cys Asp Phe Ala Lys Gly Val Phe Asn Ala Tyr His Phe Ser Leu
            260                 265                 270
Leu Leu Thr Ser Phe Asn Cys Val Ala Asp Pro Val Leu Tyr Cys Phe
        275                 280                 285
Val Ser Glu Thr Thr His Arg Asp Leu Ala Arg Leu Arg Gly Ala Cys
    290                 295                 300
Leu Ala Phe Leu Thr Cys Ser Arg Thr Gly Arg Ala Arg Glu Ala Tyr
305                 310                 315                 320
Pro Leu Gly Ala Pro Glu Ala Ser Gly Lys Ser Gly Ala Gln Gly Glu
                325                 330                 335
Glu Pro Glu Leu Leu Thr Lys Leu His Pro Ala Phe Gln Thr Pro Asn
            340                 345                 350
Ser Pro Gly Ser Gly Gly Phe Pro Thr Gly Arg Leu Ala
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His Leu His Pro Pro Ser Leu Tyr Ile Phe Val Ile Gly Val Gly Leu
            20                  25                  30
Pro Thr Asn Cys Leu Ala Leu Trp Ala Ala Tyr Arg Gln Val Gln Gln
        35                  40                  45
Arg Asn Gln Leu Gly Val Tyr Leu Met Asn Leu Ser Ile Ala Asp Leu
    50                  55                  60
Leu Tyr Ile Cys Thr Leu Pro Leu Trp Val Asp Tyr Phe Leu His His
65                  70                  75                  80
Asp Asn Trp Ile His Gly Pro Gly Ser Cys Lys Leu Pro Gly Phe Ile
                85                  90                  95
Phe Tyr Thr Asn Ile Tyr Ile Ser Ile Ala Phe Leu Cys Cys Ile Ser
            100                 105                 110
Val Asp Arg Tyr Leu Ala Val Ala His Pro Leu Arg Phe Ala Arg Leu
        115                 120                 125
Arg Arg Val Lys Thr Ala Val Ala Val Ser Ser Val Val Trp Ala Thr
    130                 135                 140
Glu Leu Gly Ala Asn Ser Ala Pro Leu Phe His Asp Glu Leu Phe Arg
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145                 150                 155                 160
Asp Arg Tyr Asn His Thr Phe Cys Phe Glu Lys Phe Pro Met Glu Gly
                165                 170                 175
Trp Val Ala Trp Met Asn Leu Tyr Arg Val Phe Val Gly Phe Leu Phe
            180                 185                 190
Pro Trp Ala Leu Met Leu Leu Ser Tyr Arg Gly Ile Leu Arg Ala Val
        195                 200                 205
Arg Gly Ser Val Ser Thr Glu Arg Gln Glu Lys Ala Lys Ile Lys Arg
    210                 215                 220
Leu Ala Leu Ser Leu Ile Ala Ile Val Leu Val Cys Phe Ala Pro Tyr
225                 230                 235                 240
His Val Leu Leu Leu Ser Arg Ser Ala Ile Tyr Leu Gly Arg Pro Trp
                245                 250                 255
Asp Cys Gly Phe Glu Glu Arg Val Phe Ser Ala Tyr His Ser Ser Leu
            260                 265                 270
Ala Phe Thr Ser Leu Asn Cys Val Ala Asp Pro Ile Leu Tyr Cys Leu
        275                 280                 285
Val Asn Glu Gly Ala Arg Ser Asp Val Ala Lys Ala Leu His Asn Leu
    290                 295                 300
Leu Arg Phe Leu Ala Ser Asp Lys Pro Gln Glu Met Ala Asn Ala Ser
305                 310                 315                 320
Leu Thr Leu Glu Thr Pro Leu Thr Ser Lys Arg Asn Ser Thr Ala Lys
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Val Gln Leu Lys Met Leu Pro Pro Ala Gln
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            20                  25                  30
Ile Gly Ser Leu Cys Val Ser Phe Leu Gln Pro Lys Lys Glu Ser Glu
        35                  40                  45
Leu Gly Ile Tyr Leu Phe Ser Leu Ser Leu Ser Asp Leu Leu Tyr Ala
    50                  55                  60
Leu Thr Leu Pro Leu Trp Ile Asp Tyr Thr Trp Asn Lys Asp Asn Thr
65                  70                  75                  80
Thr Phe Ser Pro Ala Leu Cys Lys Gly Ser Ala Phe Leu Met Tyr Met
                85                  90                  95
Leu Phe Tyr Ser Ser Thr Ala Phe Leu Thr Cys Ile Ala Val Asp Arg
            100                 105                 110
Tyr Leu Ala Val Val Tyr Pro Leu Lys Phe Phe Phe Leu Arg Thr Arg
        115                 120                 125
Arg Ile Ala Leu Met Val Ser Leu Ser Ile Trp Ile Leu Glu Thr Ile
    130                 135                 140
Phe Asn Ala Val Met Leu Trp Glu Asp Glu Thr Val Val Glu Tyr Cys
145                 150                 155                 160
Asp Ala Glu Lys Ser Asn Phe Thr Leu Cys Tyr Asp Lys Tyr Pro Leu
                165                 170                 175
Glu Lys Trp Glu Ile Asn Leu Asn Leu Phe Arg Thr Cys Thr Gly Tyr
            180                 185                 190
Ala Ile Pro Leu Val Thr Ile Leu Ile Cys Asn Arg Lys Val Tyr Gln
        195                 200                 205
Ala Val Arg His Asn Lys Ala Thr Glu Asn Lys Glu Lys Lys Arg Ile
    210                 215                 220
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Ile Lys Leu Leu Val Ser Ile Thr Val Thr Phe Val Leu Cys Phe Thr
225                 230                 235                 240
Pro Phe His Val Met Leu Leu Ile Arg Cys Ile Leu Glu His Ala Val
                245                 250                 255
Asn Phe Glu Asp His Ser Asn Ser Gly Lys Arg Thr Tyr Thr Met Tyr
            260                 265                 270
Arg Ile Thr Val Ala Leu Thr Ser Leu Asn Cys Val Ala Asp Pro Ile
        275                 280                 285
Leu Tyr Cys Phe Val Thr Glu Thr Gly Arg Tyr Asp Met Trp Asn Ile
    290                 295                 300
Leu Lys Phe Cys Thr Gly Arg Cys Asn Thr Ser Gln Arg Gln Arg Lys
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Ser Asp Lys
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